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ABSTRACT

Based on data gathered from a number of complementary sources, this study provides a detailed descriptive analysis of both the direct and indirect costs incurred by the Federal government in operating the ERIC system, and the user population and user demand for ERIC products and services. Data sources included a survey of ERIC's U.S. intermediate "access points" (academic and public libraries, information centers, clearinghouses); cost data drawn from site visits and archival budgetary materials; surveys of ERIC requestors intended to provide user profiles as well as measures of user satisfaction; and a survey of educational practitioners, administrators, and researchers designed to measure awareness and use of ERIC. A generalized conceptual framework within which to view the operation of a system such as ERIC is developed, ERIC access points are described by type and function, and ERIC usage is examined with respect to demand levels and products and services utilized. The costs of the ERIC system are categorized by ERIC system participant, system products and services, and system functions. Recommendations for further analysis are made. (JL)

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COST AND USAGE STUDY OF THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) SYSTEM.

A DESCRIPTIVE SUMMARY.

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National Institute of Education
December 1981

IR 010 053

Selected Findings

- ERIC information is available at an estimated 3,269 different locations throughout the United States. Just over half of these ERIC Access Points are located at institutions of higher education and another 25% are libraries and information service providing organizations that exist to serve elementary and secondary education. Only 17 Access Points are supported by NIE's ERIC Program.

- RIE is the most widely available ERIC resource and can be found at 83% of all ERIC Access Points in the United States. (page 6)

- ERIC resources are used more than 2.7 million times annually, providing clients with more than 30 million bibliographic records and/or primary documents. (pages 6 to 9)

- The two groups accounting for the most annual usages of ERIC resources are students at colleges and universities and persons whose primary responsibility is teaching, training, or counseling. These two groups account for 34.4% and 29%, respectively, of annual ERIC usages. (page 10)

- Persons employed by or primarily affiliated with colleges and universities account for 45.6% of annual ERIC usages, while employees of local school district offices and elementary and secondary schools account for 24.8% of annual ERIC usages. SEA personnel account for slightly more than 9% of annual ERIC usages. (page 10)

- Sampling from a universe of 1.8 million persons employed in the educational community in the United States, study data indicate that 33.2% of these persons have used ERIC resources. More than 80% of those who have used ERIC are employed at the elementary or secondary school level. (pages 9 to 12)

- The three most frequent uses of ERIC information are for research, for school improvement, and to support academic study. (page 12)

- The total annual expenditure for the development, distribution, and use of ERIC information in the United States is estimated to be $136 million. Approximately 4.1% of these funds are provided by the NIE's ERIC Program. (pages 13 to 15)

- o ERIC Access Points spend approximately $26 million annually to support the distribution and use of ERIC information, or about four times as much as is contributed by the Federal Government. (page 13)

- o Nearly half of the 3,269 ERIC Access Points in the United States receive their primary support from college and university budgets; another 33.4% are supported by state and local funds; and 6.2% are supported by Federal grants and contracts.

- o On the average, an hour of ERIC usage costs approximately $12.90. The NIE contributes about 53¢ to each hour of use, while access points contribute $2.50 and the client contributes $9.70. (pages 13 & 15)

Introduction

In the fall of 1979 the National Institute of Education contracted with King Research, Inc. to develop a database for studying the Educational Resources Information Center (ERIC) Program.* The contract called for the development of a database containing information about the universe of ERIC information access points in the United States and focusing most specifically on data about the cost and use of ERIC resources. Data from the study will be used to (1) examine ERIC Program policies and procedures, and (2) enhance understanding of the dissemination of education related information in the United States. This is a summary report of selected descriptive information from the database.

Background Information

The need for ERIC emerged in the early 1960s as the number of reports from education studies and projects, many of them Federally sponsored, began to exceed the capacities of existing information storage and retrieval systems and traditional R & D distribution channels (e.g., libraries, journals, and annual conferences). Simply put, information about many new education and social science studies and projects was not readily accessible to either the education community or to Federal officials. As a consequence, it became increasingly difficult to obtain information about studies that were underway or about the results of completed studies and projects. In response, the U.S. Office of Education began the ERIC Program in 1966. Before the decade was over, ERIC's potential to serve many segments of the education community was recognized, and the program was expanded to include information of primary use to teachers and administrators in addition to information of primary interest to the R & D community and to Federal officials.

The Educational Resources Information Center (ERIC) Program supports the development of information resources that provide bibliographic control over a significant portion of the R & D literature in education. During the past decade ERIC has matured to become one of the largest and most heavily used bibliographic control systems in the world. The Resources in Education (RIE) serial publication and database provide control over fugitive literature that is not readily available elsewhere. RIE currently contains information about more than 200,000 documents and is growing by some 15,000 titles a year. The Current Index to Journals in Education

*This study is limited to examining ERIC resources in the United States, recognizing, however, that there are many ERIC resources and substantial ERIC use outside the U.S.

(CIJE) serial publication and database contain information about education articles found in more than 750 different journals. CIJE contains information about more than 250,000 titles and the database is growing by approximately 20,000 titles a year. RIE and CIJE are complemented by the RIE microfiche collection, computer searchable data tapes, the ERIC Thesaurus, ERIC Clearinghouse publications, ERIC classification and searching tools, and other specialized ERIC services.

While the Federal Government supports the development of ERIC information resources, it does not, in the main, provide for their distribution and use. Rather, a wide array of traditional library and information service providing organizations are relied upon to obtain ERIC resources and use them to serve the public with education information. One consequence of this unique public/private information dissemination arrangement is that the Federal Government does not routinely have access to information about the distribution and use of ERIC resources. This study was designed to address the need for such information.

The Study

The ERIC Cost and Usage Study was designed to provide data about the universe of organizations that use ERIC resources to serve the public and to provide insights into how effectively ERIC resources serve these information providers and their clients. Data from the study will be used to examine the appropriateness of existing ERIC resources, policies, and procedures, and to enhance understanding of the design and operation of dissemination programs serving education. Fundamental questions the study was designed to help answer include:

- Where in the United States is ERIC information available and what types of organizations use ERIC resources to serve their clients?
- Who uses ERIC resources, for what purposes, and how often?
- How well does the design of ERIC resources, policies and procedures, the ERIC program, and the information in ERIC meet the information needs of service providers and their clients?
- What are the true costs associated with the development and use of ERIC resources and how are these costs shared by the Federal Government, information service providers, and information users?

ERIC Access Points

An ERIC Access Point is an information service providing organization that provides clients with ERIC information by maintaining one or more of the following resources: RIE, CIJE, ERIC Searches*, ERIC Documents (see Note 1). For purposes of description and comparison, this report classifies ERIC Access Points into three categories: (1) ERIC Program Access Points, (2) Academic Access Points, and (3) Other Access Points. These categories were chosen because of their policy relevance and explanatory power. The ERIC Program Access Points category consists of the 16 ERIC Clearinghouses and the ERIC Processing Facility; they are the only access points supported by the NIE's ERIC Program. Academic Access Points are important because they are located at colleges and universities and have traditionally served the higher education and research communities. Other Access Points include a host of different information service providing organizations which have not been adequately studied either individually or as a group.

Table 1. shows the distribution by category of the estimated 3,269 ERIC Access Points in the United States. ERIC Program Access Points, those directly supported by the NIE, represent less than one percent of all ERIC Access Points in the United States. Academic Access Points (N = 1,728) represent 52.9% of all access points, with the greatest percentage of these service providers being main campus libraries at institutions of higher education. Classified under Other Access Points are a host of libraries, information centers, clearinghouses, and information vendors that provide services to both the general public and special client groups. To further explain the universe of ERIC Access Points in the U.S., Other Access Points have been subdivided into (a) those in the formal education system, (b) those with public library affiliations, and (c) those that serve more specialized clients. These three subdivisions represent 25%, 11.5%, and 10.1% of all ERIC Access Points, respectively.

The Availability of ERIC Resources

ERIC resources (RIE, CIJE, ERIC Searches, ERIC Documents) are most widely available through Academic Access Points. There are both more Academic Access Points than Other Access Points (1,728 vs. 1,524) and there is, on the average, a greater concentration of ERIC resources at Academic Access Points** (see Table 2.). Of access points maintaining three or four of the ERIC resources examined in this study, some 74% are Academic Access Points. In contrast, the majority (62%) of access points with only one ERIC resource are Other Access Points. Each of the four ERIC resources studied is available at more Academic than Other Access Points. For example,

*The terms ERIC Searches and ERIC Searching refer to on-line and batch computer searches of the ERIC database.

**Academic Access Points maintain an average of 2.2 of the four ERIC resources examined in this study while Other Access Points maintain an average of 1.5 resources.

Table 1. U.S. ERIC Access Points

			N	Percentage
ERIC Program Access Points	1.	ERIC Clearinghouses	16	0.5
	2.	ERIC Facility	1	0.0
		(Subtotal)	(17)	(0.5)
Academic Access Points	3.	Campus-Main Library	1,500	45.9
	4.	Campus-Departmental Library	155	4.8
	5.	Campus-Other Organization	73	2.2
		(Subtotal)	(1,728)	(52.9)
Other Access Points	6.	State Education Agencies	67	2.0
	7.	Intermediate Service Providers	74	2.3
Education System Access Points	8.	School District R&D Center	67	2.0
	9.	School Library-District-wide	467	14.3
	10.	School Library-Building level	143	4.4
		(Subtotal)	(818)	(25.0)
Library Access Points	11.	State Libraries	4	0.1
	12.	Federal Libraries	57	1.7
	13.	Public Libraries	318	9.7
		(Subtotal)	(379)	(11.5)
Specialized Access Points	14.	Other Federal Clearinghouses	3	0.1
	15.	NIE Lab or Center	12	0.4
	16.	Society or Association	74	2.3
	17.	Business or Corporation	64	2.0
	18.	Other	173	5.3
		(Subtotal)	(326)	(10.1)
		Column Subtotal	(1,524)	46.6)
		Column Total	3,269	100.0%

Table 2. ERIC Access Points by Product/Service Mix

Product/Service	ERIC PROGRAM ACCESS POINTS	ACADEMIC ACCESS POINTS	OTHER ACCESS POINTS	ALL ACCESS POINTS
	Access Points			
ONE	—	575 (38.2)* (33.3)**	933 (61.8) (61.2)	1,507 (100%) (46.1)
TWO	—	500 (60.0) (28.9)	383 (40.0) (25.1)	883 (100%) (27.0)
THREE	1 (0.2) (5.9)	385 (71.8) (22.3)	150 (28.0) (9.8)	536 (100%) (16.4)
ALL FOUR	16 (4.7) (94.1)	268 (78.1) (15.5)	59 (17.2) (3.9)	343 (100%) (10.5)
	N=17 (.5)	N=1,728 (52.9)	N=1,524 (46.6)	N=3,269 (100%)

* Row Percentages
** Colum Percentages

Table 3. Ranking of ERIC Access Points by ERIC Product/Service Mix

Rank	ERIC Product/Service Mix				Number of Access Points (OVERLAP)	
	RIE (RIESUB=1)	CIJE (CIJESUB=1)	Documents (ERICDOC=1)	Searches (ERICSRCH=1)	N	%
1	x				952	29.1
2	x	x	x		386	11.8
3	x		x		380	11.6
4	x	x			378	11.6
5	x	x	x	x	343	10.5
6			x		262	8.0
7		x			176	5.4
8	x			x	119	3.6
9				x	117	3.6
10	x	x		x	107	3.3
11	x		x	x	43	1.3
12			x	x	3	0.1
13		x	x		3	0.1
Total	2,708	1,393	1,420	731	3,269	100.0
Percent*	83	43	43	22	100	

*Does not add to 100% because of Access Points having more than one resource.

57.8% of all RIE availability and 55.1% of all ERIC Document availability is at Academic Access Points. The contrast is even greater for CIJE and ERIC Searches, where Academic Access Points represent 67.7% and 70%, respectively, of all access points maintaining these resources.

ERIC Access Points do not all maintain the same resource mix. Table 3. displays the estimated number of access points for each existing resource mix. Nearly half (46.1%) of all access points maintain only one ERIC resource. Where only one ERIC resource is maintained by an access point, the resource is most likely RIE, since RIE is the single ERIC resource at 29.1% of all access points. Twenty-seven percent of all access points maintain two ERIC resources with the most frequent combination being either RIE and CIJE or RIE and ERIC Documents. Other combinations of two ERIC resources seldom occur. Where access points maintain three ERIC resources, the most likely resource mix is RIE, CIJE, and ERIC Documents. These three resources are maintained at 11.8% of all access points, making them the most widely available combination of ERIC resources--see Table 3. Finally, 10.5% (N = 343) of the U.S. ERIC Access Points maintain all four resources.

These patterns of ERIC resource mix support an important generalization. That is, RIE is the most widely available of the ERIC resources examined and, therefore, appears to be the fundamental resource for providing access to ERIC information. RIE is selected by access points both alone and in combination with other resources more frequently than any other ERIC resource. In its serial form, RIE is available at 83% of all U.S. ERIC Access Points. In the majority of those instances in which an access point does not subscribe to RIE, the RIE database is accessible through ERIC Searches.

Academic Access Points, where ERIC resources are most available, differ in terms of the ERIC resources they maintain; 33% have only one resource, 29% have two, 22% have three, and 16% have all four. Further, they appear to be dominant among access points having two or more ERIC resources--representing 60% of all access points with two resources, 72% of those with three, and 78% of those with all four. Other Access Points are most likely to have only one of the ERIC resources, with only 39% having two or more. While small in number, ERIC Program Access Points generally maintain all ERIC resources.

ERIC Usage

Table 4. presents estimates of annual usages of ERIC resources. These estimates represent the number of times service provider personnel and their clients consult an ERIC resource for information. The usages in Table 4. indicate total "contacts" between users and the four resources; they

Table 4. Estimated Annual ERIC Usages

ERIC Resources	Access Points: ERIC Program	Academic	Other	
RIE	70,744 (1) (8.5) (2) (49.0) (3) (17) (4)	643,497 (76.8) (35.8) (1,566)	123,289 (14.7) (15.4) (1,125)	837,530 (1) (100) (2) (30.6) (3) (2,708) (4)
CIJE	38,240 (4.1) (26.5) (17)	750,741 (81.7) (41.8) (943)	130,256 (14.2) (16.3) (433)	919,237 (100) (33.6) (1,393)
ERIC Searches	6,484 (3.3) (4.4) (16)	113,323 (57.3) (6.3) (512)	77,861 (39.4) (9.7) (203)	197,668 (100) (7.2) (731)
ERIC Documents	28,821 (3.7) (19.6) (17)	288,051 (36.7) (16.0) (783)	468,436 (59.6) (58.6) (620)	785,308 (100) (28.7) (1,420)
	144,289 (1) (5.3) (2) (100) (3) (17) (4)	1,795,612 (65.5) (100) (1,728)	799,842 (29.2) (100) (1,524)	(2,739,743)

(1) Estimated Annual Usages
(2) Row Percentages
(3) Column Percentages
(4) Number of Access Points

Table 5. Mean Number of Estimated Annual ERIC Resource Usages Per Access Point

	ERIC CLEARINGHOUSE & FACILITY	ACADEMIC ACCESS POINTS	OTHER ACCESS POINTS
RIE	4161	411	110
CIJE	2260	796	301
SEARCHES	405	221	384
ERIC DOCUMENTS	1654	368	804

do not indicate (1) how many different persons use ERIC since a user might "contact" more than one resource during a single search, (2) how many different resources or titles are examined during the course of a usage, or (3) any subsequent or secondary use of the information obtained.

Using this limited definition of ERIC usage, we estimate that there are more than 2.7 million annual usages of ERIC resources (See Note 2). Table 4. displays these estimated annual usages of ERIC resources at different types of access points. The majority of annual usages (65.5%) occur through Academic Access Points while Other Access Points account for an additional 29.2% of annual ERIC usages. The remaining 5.3% of annual ERIC usages occur through ERIC Program Access Points.

Table 4. shows that both RIE and CIJE are used extensively. CIJE is the most used of the four ERIC resources examined even though there are only about half as many access points maintaining CIJE as there are access points that maintain RIE (see Table 3.).

Nearly 82% of CIJE and 77% of RIE usages occur through Academic Access Points. Academic Access Points also account for about 57% of all ERIC Searches. Other Access Points account for large portions of ERIC resource usage for ERIC Documents and ERIC Searches; 59.6% and 39.4%, respectively, of all annual usages for these resources.

Since the usage data in Table 4. only represents client contacts with bibliographic resources, it is important to recognize that these contacts ordinarily lead to the client examining primary documents. For example, the study reveals that the average RIE usage identifies 13 titles of potentially helpful documents. Further, study data indicate that most primary documents identified by using ERIC resources are considered relevant by the information requestor, and that requestors ordinarily obtain access to some or most of the identified primary documents. The following data indicate the estimated numbers of titles identified by 2.7 million annual usages of ERIC.

ERIC Resource	Usages	$\bar{X}$ Number of Titles	Totals
RIE	837,530	13.1	10,971,643
CIJE	919,237	7.8	7,170,048
Searches*	197,668	50.0*	9,883,400
Documents**	785,308	5.5	4,344,323

*Includes data from both ERIC and other databases.
**Includes a substantial amount of primary document use. Study data show that the average user of RIE microfiche reads 5.5 reports.

While the data in Table 4. clearly indicate that most ERIC usages occur through Academic Access Points, the data can be misleading unless other factors are taken into consideration. Specifically, comparing different types of access points is not appropriate without correcting for the greater number of Academic Access Points and the greater concentration of ERIC resources at these access points. Accordingly, Table 5. presents the mean number of estimated annual usages for each ERIC resource at access points where the resource is available.

An examination of Table 5. reveals several important things. First, the greatest annual usage of ERIC resources is at ERIC Program Access Points. This is understandable since these access points are specifically responsible for providing ERIC information, while Academic and Other Access Points are more general information providers. Second, there is nearly as much annual ERIC usage at Other Access Points as there is at Academic Access Points. The greater aggregate ERIC usage at Academic Access Points (Table 4.) can be attributed to there being more of these access points and their greater concentration of ERIC resources. Third, Academic and Other Access Points have different ERIC resource use patterns. Academic Access Points turn to RIE and CIJE for information more often than Other Access Points, while Other Access Points turn to ERIC Searches and ERIC Documents more often than do Academic Access Points.

ERIC Clients and Their Patterns of Usage

The ERIC Cost and Usage Study randomly sampled from and surveyed three groups of persons that comprise a substantial portion of the universe of people in the U.S. whose primary income results from some education related activity. The three groups sampled were:

1. Practitioners: including teachers, principals and school librarians in public and private primary and secondary schools.

2. Administrators: school district staff and state education agency personnel.

3. Academics and Consultants: faculty and department heads of academic education departments and educational consultants.

Based on survey results, the following table indicates the estimated numbers of persons from these groups that have used ERIC resources.

Group*	Universe Sampled	ERIC Users	Percentage
Practitioners	1,626,467	481,341	29.6
Administrators	130,506	84,056	64.4
Academics & Consultants	43,687	31,644	72.4
Totals	1,800,680	597,041	33.2%

*Does not include full-time (unemployed) graduate/undergraduate students. (See Note 3)

These data show that administrators are more likely to have used ERIC than are practitioners, and that academics and consultants are even more likely than administrators to have used ERIC. Combined with other data from the study, it is clear that the likelihood of using ERIC is higher among persons with increased administrative and planning responsibilities and by those with advanced degrees. For example, it is estimated that nearly 90% of those persons holding a doctorate and working in the field of education have used ERIC.

Most usages of ERIC are accounted for by persons affiliated with educational institutions. Persons employed by or primarily affiliated with colleges and universities account for 45.6% of all ERIC usages, while persons affiliated with SEAs and LEAs account for 33.9% of all ERIC usages. The roles within these two groups accounting for the most ERIC usages are higher education students (34.4% of all usages) and persons whose primary job or function is teaching, training, or counseling (29% of all usages).

Academic Access Points account for 1.7 million ERIC usages annually or 65% of all annual usages. Some 60% of these usages are accounted for by persons whose primary employment or affiliation is with a college or university, with one-half the usages attributable to students. Persons employed by or primarily affiliated with SEAs and LEAs account for 22.4% of all ERIC usages at Academic Access Points.

About 30% of all ERIC usages occur through Other Access Points. These access points primarily serve persons associated with SEAs and LEAs; accounting for 62.2% of ERIC usages at Other Access Points. Most of the ERIC information obtained through these access points is requested by persons working in one of three areas: administration and planning; teaching, training, and counseling; and information support.* Persons employed by or primarily affiliated with higher education institutions account for only 13.8% of ERIC information usages at Other Access Points and students seldom request information from these providers.

ERIC Program Access Points account for about 5% of annual ERIC usages. About one-fourth of the ERIC usages at these access points is attributable to students and another fourth to persons affiliated with SEAs and LEAs. The majority of the remaining ERIC usages at these access points is most likely accounted for by persons engaged in information support activities, by persons from the academic community, and by persons engaged in R & D type activities. When comparing all three categories of access points, a greater percentage of usage at ERIC Program Access Points is accounted for by persons with doctorates and by persons engaged in R & D activities.

Persons affiliated with colleges and universities are frequent users

*Examples of persons who provide information support are librarians and information specialists.

of all ERIC resources and most often turn to RIE and CIJE. Students are particularly heavy users of RIE and CIJE. College and university affiliated persons account for about 5% more CIJE usage and three times more RIE usage than do SEA and LEA affiliated persons. In contrast, SEA and LEA affiliated persons account for more ERIC Searching and Document usages than do college and university affiliated people.

The two groups accounting for the greatest amounts of ERIC usage are students and people involved with teaching, training, and counseling. While persons involved with educational adminsitration, planning, and research account for just under 20% of all ERIC usages, it should be remembered that there are relatively few people engaged in these activities. Thus, the 526,021 estimated annual usages accounted for by these people probably make them, as individuals, the most frequent users of ERIC resources. Another relatively small group of users, information support personnel, also account for a significant percentage of annual ERIC usages, 14.1%.

About 60% of all ERIC Searches are accounted for by administrators, planners, teachers, trainers, and counselors. Full time students account for 18.1% of all ERIC Searches while people engaged in research and evaluation account for 6%. People engaged in teaching, training, and counseling account for a substantial amount of usage of all ERIC resources.

Users with annual incomes of $30,000 or more account for about 10% of all ERIC usages. Some 74% of the usages by these people occur through Other Access Points and 18% occur through Academic Access Points. While the remaining 8% of usages by this group is at ERIC Program Access Points, it is important to point out that these usages make up 15.2% of all ERIC usages at these locations. Users with annual incomes below $10,000 obtain most of their ERIC information through Academic Access Points.

About one-third of all ERIC usages are accounted for by persons under 25 years of age and nearly one-half of all usages are by persons with a B.S. degree or less. Such usages are largely accounted for by students and occur most often at Academic Access Points.

Nearly 40% of all ERIC usages are accounted for by persons with graduate work beyond a masters degree, including people with doctorates. These people combine to account for over a million annual usages of ERIC. They account for over half of all usages at ERIC Program Access Points, twenty-eight percent of all usages at Academic Access Points, and over sixty percent of all usages at Other Access Points.

Requests for ERIC information at Academic Access Points are nearly always made in-person and responses are nearly always delivered directly to the client. In contrast, ERIC Program and Other Access Points only receive

about half of their ERIC requests in-person and only personally deliver about half the corresponding responses. When in-person requests and responses are not made, the most common communication channels are to receive requests by telephone and to deliver responses by mail. RIE and CIJE requests and responses are nearly always done face-to-face while about 40% of all ERIC Search and ERIC Document requests and their responses are by telephone and mail.

ERIC resources are frequently used in conjunction with other information resources (as they are intended to be) and survey data from ERIC requestors indicate both ERIC information and non-ERIC printed materials were used together 75% of the time. This is also explainable, in part, by the fact that most ERIC requests are for information on a specific topic rather than a specific author or title. When people are seeking a specific title or information about a particular author, they most often use RIE and CIJE.

Most ERIC users initially found out about ERIC from a teacher, professor, or employer. Given the substantial proportion of ERIC use accounted for by those involved in an academic research project or class study, it is safe to assume that the majority of ERIC awareness occurs while people are in college or graduate school.

Since ERIC primarily consists of bibliographic resources, it is important to note that the majority of ERIC requestors do succeed, at least in part, in obtaining access to the documents identified. About half of ERIC requestors surveyed report that they were able to identify useful resources in addition to documents through their searching; the most common resources being programs and projects, organizations, and individuals.

Finally, ERIC users report both a high degree of satisfaction with and utility from identified resources, and the majority of users report a willingness to use ERIC again.

Uses Of ERIC Information

ERIC requestors were surveyed to determine how they intended to use information obtained. The results indicate that there are three most likely uses of ERIC information: academic use by students, research use, and school improvement use (See Note 4). As other data suggests, information obtained through ERIC Program and Other Access Points is most often used to support research or to support school improvement at the elementary and secondary levels. Information obtained through Academic Access Points is more likely to be used to support academic study and/or research. It should be remembered, however, that these patterns are confounded by the fact that many persons use the same ERIC information for multiple purposes. For example, teachers often use the results from an ERIC Search both for a graduate paper and for some practice improvement effort.

All ERIC resources are extensively used to support research activities. RIE and CIJE are used more often than ERIC Searches and Documents for academic support, and all ERIC resources are used to support educational practice improvement.

ERIC Costs

The ERIC Cost and Usage Study was designed to help determine the extent to which organizations and persons outside the Federal Government contribute financially to the production, distribution, and use of ERIC resources. While the Federal Government provides substantial annual support for the development of ERIC resources, it has long been recognized that access points and their clients spend substantially more money than the Federal Government to obtain and use these resources. To determine precisely how much annual support is associated with ERIC and the level of support provided by different groups, the study gathered cost data by (1) examining existing ERIC Program records, (2) mailed survey questionnaires to randomly selected access points and ERIC users, and (3) site visits to selected ERIC Access Points. The resulting data have been used to arrive at estimates of annual costs for different ERIC functions and groups.

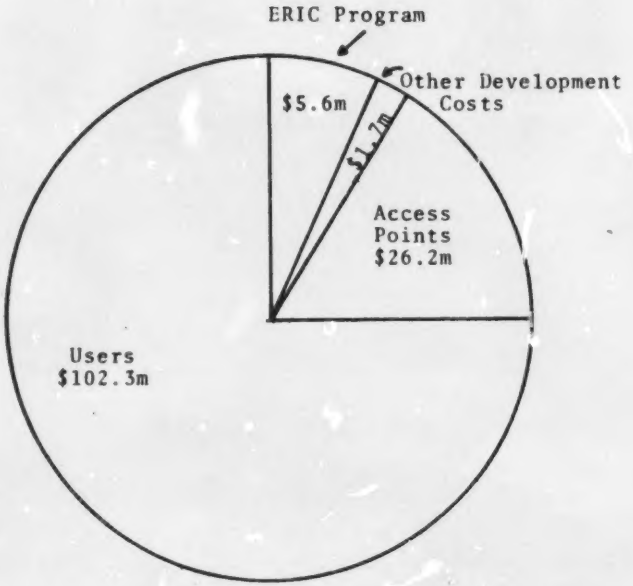
Figure 1. presents estimates of aggregate costs by participant for the development and production, distribution, and use of ERIC resources. The general categories of ERIC participants covered in the cost study were the ERIC Program and its component organizations, access points, and users. Each of these participant categories is discussed briefly in the following.

The ERIC Program. The NIE supported ERIC Program provides approximately $5.6 million annually for the development of ERIC resources. This amount, however, is not the total of funds dedicated to the development of these resources. Other development costs include those incurred by the Government Printing Office (to print and distribute RIE) and Oryx Press (to print and distribute CIJE and the ERIC Thesaurus). Thus, total annual costs of developing ERIC resources, including costs for which some participants are reimbursed through sales, are estimated to be $7.3 million.

ERIC Access Points. The study estimates that the 3,269 ERIC Access Points in the United States spend $26.2 million annually to acquire and maintain ERIC resources and to use them to provide their clients with ERIC information. Also included in this total is an estimated $2 million spent by database processors to provide computer searches of ERIC. The greatest single item accounting for ERIC related expenditures by access points is the time service provider personnel spend assisting clients with identifying and obtaining ERIC information.

Users. We estimate users spend a minimum of 10.5 million hours annually to identify, access, and assimilate ERIC information. We further estimate the total annual cost incurred by these users aggregate to $102.3 million. This estimate includes both direct expenses incurred by clients and a value assigned to the time they spend assimilating ERIC information.

Figure 1. ERIC Cost by Participant*
(in thousands of dallars)



Participant	Cost*	Percentage
NIE	5,600	4.12%
Other Development	1,684	1.24
Access Points	26,240	19.31
Users	102,345	75.33
Total	$135,869	100.00%

*Based on 1979 data.

Returning to Figure 1., the relatively small investment made by the Federal Government to facilitate the transfer of education R & D information can be seen. The NIE's ERIC Program support is only 4.1% ($5.6 million) of the estimated annual total of all ERIC costs, with all development costs being less than 6% of annual costs. The ERIC Access Points alone spend more than three times as much money to provide the public with ERIC information as the Federal Government spends to develop ERIC resources. Most significant is the time and money contributed by persons who use ERIC resources. These ERIC users assume nearly 75% of the total of all costs associated with the development, distribution and use of ERIC information.

The support relationships between the Federal Government, access points, and information users are shown by the contribution each makes to an hour of ERIC use. We estimate that each hour of ERIC use costs approximately $12.90. The NIE contributes about 53¢ to each hour of use, while access points contribute $2.50 and the client contributes about $9.70. These amounts reflect both the extent to which the ERIC Program has been able to leverage the resources of others and the degree to which access points and information clients are willing to support and use ERIC resources.

Finally, it should be recognized that the data presented here do not reflect all the costs associated with developing and maintaining the ERIC database. Each year various individuals and sponsoring organizations devote hundreds of millions of dollars to education R & D. One significant outcome of their efforts is the research reports, project summaries, and curriculum guides that are produced. Many of these items are ultimately selected for inclusion in the RIE database. While ERIC does not pay for these documents, they do represent a sizable investment by others. Based on an average of 100 professional and 40 support hours to produce an RIE document, we estimate that ERIC receives $23.5 million in free services annually. More important, these documents represent a significant portion of the "state of the art" research in education and they would not be widely available if they were not included in ERIC.

Future Work

This report has presented selected descriptive information from the data gathered in the ERIC Cost and Usage Study. Additional descriptive reports will be prepared and analyses will be conducted throughout FY82. As additional reports are completed, they will be available, along with the King Research, Inc. Final Report, from RIE.

NOTES

1. The ERIC Cost and Usage Study gathered data by methods that included mailed questionnaires, on-site data collection, and examination of existing records. For purposes of the study, an ERIC Access Point was defined as an information service providing organization that does one or more of the following:

   - o Subscribes to one or more copies of the monthly or semi-annual editions of Resources in Education (RIE)
   - o Subscribes to one or more copies of the monthly or semi-annual editions of Current Index to Journals in Education (CIJE)
   - o Conducts or makes arrangements for on-line or batch searches of the ERIC database
   - o Maintains a collection of ERIC Documents in microfiche and/or papercopy

2. ERIC usages presented in this study represent "most conservative" estimates. The estimates are based on both access point usage records and usage data collected during the study. While the estimates combine usages occurring when service provider staff and clients work together (assisted use) and usages occurring when clients work alone (unassisted use), the latter are most likely underrepresented here. The 2.7 million annual ERIC usages reported in this paper include an estimated 575,000 annual unassisted ERIC usages. Other study data suggests that there may be as many as 20% more unassisted ERIC usages occurring annually.

3. Due to Federal limitations on client's survey burden time, this study did not randomly sample full-time students about their knowledge of and/or experiences with ERIC. Rather, student usage data was gathered by tracking actual users of ERIC resources. Consequently, an estimate of the number of full-time students who have used ERIC is not yet available. Such an estimate, along with other student data, will be available in the future.

4. ERIC information requestors were surveyed to determine why they had requested information and how any information obtained was used. Responses to two information use items were combined to form a proxy variable, or indicator, measuring how frequently ERIC information had been used for school improvement purposes. Responses to choices 1 and 4 for the survey item below were combined to indicate ERIC use for school improvement.

Which of the following categories best describe how you used or applied (or intended to use or apply) the information obtained from the ERIC product or service specified on the ERIC Request Card? (CIRCLE CODE NUMBERS OF ALL THAT APPLY.)

To support the teaching, training, or guidance of my own or someone else's students.....1

To support my studying in a class I was taking.....2

To support my own research project.....3

To help plan, manage, administer or evaluate an organization's activities (e.g., a school, school district, state agency, or other organization).....4

I did not intend to use or apply the information myself since I was obtaining it for someone else's use.....5

I don't remember.....6

Other (please describe)_____7